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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,047	07/28/2005	Akihisa Tomita	266607US2XPECT	2952
22850 7590 01/15/2009 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER CHAPEL, DEREK S				
ART UNIT 2872		PAPER NUMBER		
NOTIFICATION DATE 01/15/2009		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com  
oblonpat@oblon.com  
jgardner@oblon.com

### Office Action Summary

**Application No.**

10/526,047

**Applicant(s)**

TOMITA, AKIHISA

**Examiner**

DEREK S. CHAPEL

**Art Unit**

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 October 2008.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 3-9 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☒ Claim(s) 1, 3, 4 and 6 is/are allowed.  
6) ☒ Claim(s) 5 and 7-9 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 28 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Status Of Claims***

1. This Office Action is in response to an amendment received 10/20/2008 in which Applicant lists claims 2 as being cancelled, claims 4, 6 and 8-9 as being previously presented, and claims 1, 3,5 and 7 as being currently amended. It is interpreted by the examiner that claims 1 and 3-9 are pending.

### ***Claim Rejections - 35 USC § 112***

2. The amendments to the claims dated 10/20/2008 are accepted. The rejections of the claims made under 35 USC 112 first paragraph and cited in the office action mailed 7/22/2008 are hereby withdrawn.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 5 and 7-9 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: with respect to claim 5, it is not clear what makes up the "first section", "second section" and "third section" since they are not referred to in the specification and the claimed structure is not clear as to what makes up these sections. For instance, there are no physical elements claimed for the "second section". What elements make up the second section? Further, the "third section" is configured to cause a phase difference between a polarization indicating a 0 state and a 1 state. What is causing the phase difference? Is

the phase difference caused by the phase modulator or some other element? If the phase difference is caused by the phase modulator, is this phase modulator a separate modulator than the one claimed in claim 7? If by some other element, please identify the element. Since one of skill in the art cannot distinguish the separate sections, and the elements that make up those sections, as claimed, claims 5 and 7-9 are rejected. Claims 7-9 are rejected at least for inheriting the same informalities through their dependency from claim 5.

***Claim Rejections - 35 USC § 101***

5. The amendments to the claims dated 10/20/2008 are accepted. The rejections of the claims made under 35 USC 101 first paragraph and cited in the office action mailed 7/22/2008 are hereby withdrawn.

***Allowable Subject Matter***

6. Claims 1, 3, 4 and 6 are allowed.

7. The following is an examiner's statement of reasons for allowance:

Claim 1 is allowable over the cited art of record for at least the reason that the cited art of record fails to teach or reasonably suggest a means for determining an amount of polarization rotation and a phase difference applied to a certain light pulse on the basis of a polarization measurement of a preceding input light pulse sequence, realizing a controlled-unitary transform configured to cause a phase difference between a polarization indicating a  $|0\rangle$  state and a polarization indicating a  $|1\rangle$  state, as generally set forth in claim 1, the device including, in combination with the totality of the

particular limitations recited in claim 1. Claims 3, 4 and 6 depend from claim 1 and are therefore allowable for at least the same reasons as claim 1.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Response to Arguments***

8. Applicant's arguments, filed 10/20/2008, with respect to the rejection(s) of the claims under 35 USC 101 and 112 first paragraph have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, Applicant's arguments filed 10/20/2008 have been fully considered and are not persuasive with respect to the rejections set forth in view of 35 USC 112 second paragraph.

### ***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DEREK S. CHAPEL whose telephone number is (571)272-8042. The examiner can normally be reached on M-F 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone B. Allen can be reached on 571-272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. S. C./  
Examiner, Art Unit 2872  
1/6/2009

/Stephone B. Allen/  
Supervisory Patent Examiner  
Art Unit 2872